

The Female of *Pachynematus sulcatus* Benson (Hym.: Tenthredinidae)

By ANDREW D. LISTON *

Pachynematus sulcatus was described by Benson (1948) from a single male specimen caught near Killin, Perthshire. The male has since been found in Sutherland, at Inchnadamph; Inverness, at Loch Garten, and in England, from Westmorland, at Moor House (Benson, 1967). *P. sulcatus* has not yet been recorded outside of Britain. Hellén (1974) notes that the Finnish specimens recorded by Lindqvist (1949) are actually referable to *clitellatus* (Lepeletier).

Benson (1967) altered his 1958 key to include three previously unknown females which he had associated with their males. The three species which he discussed were *P. laevigatus* Zaddach (= *chambersi* Benson), *P. smithae* Ross (= *smithiae*, *auctt. err.*) and *P. sulcatus*. His paper would appear to resolve the identities of *chambersi* and *smithae* very well, but for reasons which I shall now discuss, he seems to have been mistaken with regard to *sulcatus*.

A single male *sulcatus* (Plate V, fig. 1) was caught by the author at the head of Loch Torridon, Wester Ross, on the 17th of May 1978. Its superior size (7.5 mm) and unmistakably formed projection to the 8th abdominal tergite made it instantly recognisable. Its identity was subsequently confirmed by Mr. J. Quinlan, of the British Museum (Natural History) and it is now in the collection of Helsingfors University, Finland.

I do not entirely agree with the position given to *sulcatus* in Benson's (1958) key. In my specimen the head is only very slightly expanded behind the eyes (this is known to vary in certain other species). The body is almost entirely black except for the labrum, clypeus, tegulae, edge of pronotum, tibiae, apices of femora and the apex of the abdomen. The mesopleura are smooth and shining. The hind tibia is about one and a quarter times as long as the hind femur (without its second trochanter). The inner hind tibial spur is little longer than the apical width of the hind tibia. Or, in short, *sulcatus* would appear to have some affinities with the *clibrichellus-apicalis* groups of *Pachynematus* (their colouration, and the comparative lengths of tibia and femur are similar).

When, on the following day at Torridon, I found two female *Pachynematus* specimens (Plate V), fig. 2) near the same spot where the male had been caught, I paid particular attention to them because I was not aware of the existence of Benson's (1967) paper at that time. These specimens are superficially very similar to *apicalis* (Hartig) but differ from that species in having an antenna only as long as the length of the costa of the forewing, in having the inner tibial spur on the hind leg little longer than the apical width of the tibia, but, most importantly, the mesopleura are smooth.

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Benson (1967) based his interpretation of the female *sulcatus* on two insects "associated" with the male which he caught at Inchnadamph. These insects are distinguished from females of *clitellatus* in Benson's revised key by the length of the saw, which is longer than the hind femur with the second trochanter in the specimens which Benson took for *sulcatus*, and shorter than this in *clitellatus*. From an examination of my own small series of *clitellatus* females, and judging from the comments of other authors, I do not think that the length of the saw can be used as a reliable character for the separation of species related to *clitellatus*. Weiffenbach (1962) found that the number of teeth on the saws of *clitellatus* females varies between 10-18, and such variation affects the length of the saw significantly.

A further objection to the association of these female sawflies with *sulcatus* is in their markedly different colour pattern. *P. clitellatus* and the females that Benson attributed to *sulcatus* are extensively marked with yellowish brown on head, thorax and the underside of the abdomen, whilst the male of *sulcatus* is almost entirely black (as already described). I feel certain that Benson underestimated the degree of variation to be found in *Pachynematus clitellatus* and therefore attached too much importance to the differences he found in the specimens caught with the *sulcatus* male.

The female *Pachynematus* specimens which I found at Torrison seem to me to be far more acceptable as the females of *sulcatus*. Plate V clearly shows their similarity. Except for the normal sex-controlled characters such as antennal length, it is, in fact, very hard to find differences between them. Even the pale areas of venation correspond exactly. The femur is very pale in the female specimen figured, but in the second specimen caught with it the femur is as dark as in the male. This, like the form of the head, varies intraspecifically in several *Pachynematus* species. The female specimens are 6.75 and 7 mm long.

The female insects from Torrison which I believe to be *sulcatus* may be distinguished from most species, except for *extensicornis* Norton and *kirbyi* Dahlbom, by the shape of the mesoscutellum, without its post tergite, which is more than one and one third times as broad as long (see fig. 1 in Benson, 1967). They differ from *apicalis* and *moerens* (Förster) in having an antenna as long as the costa of the forewing, the hind tarsus two thirds as long as the hind tibia, the inner hind tibial spur little longer than the apical breadth of the hind tibia, and smooth mesopleura. They differ from *clitellatus* and *xanthocarpus* (Hartig) in having a sawsheath that is triangular and acute at the apex (as in *apicalis*) when viewed dorsally, a tuberculate head, darker colour, and a narrower head behind the eyes.

The association of the *Pachynematus* specimens proposed here is only tentative and must await corroboration (it is conceivable, though not likely, that the female specimens

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represent an undescribed species). I do believe, however, that it offers a much better solution to the problem than Benson's (1967) paper.

The large number of recent additions and alterations made by Benson to the British list of *Pachynematus* are scattered in several separate papers. The necessity of consulting these renders Benson's (1958) key very difficult to use. Hellen's (1974) key contains fuller descriptions of many British species and it is very useful for clarifying some of the more difficult parts of Benson's key. Worthy of note is Hellen's synonymy of *Pachynematus glabriceps* Lindqvist, 1949 (introduced to the British list by Benson, 1964) under *P. parvilabris* (Thomson, 1871).

Acknowledgements

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References

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Legend for plate.

Fig. 1. *Pachynematus sulcatus* Benson, ♂.

Fig. 2. *P. ? sulcatus*, ♀.

SURGICAL SPIRIT AS A RELAXING AGENT. — Having had problems with mould in relaxing tins, I tried using water mixed with a small amount of surgical spirit in my relaxing tin. This proved to be most effective; as well as preventing mould, this mixture has the advantage of relaxing very quickly, 24 hours being sufficient for all but the largest insects. I have even used this relaxant on dried and crumpled leaves prior to pressing them, again with great success. — P. J. JOHNSON, 7 Haverhill Road, Horseheath, Cambridge, CB1 6QR. 23.xii.1979.

ORTHOSIA STABILIS D. & S. IN DECEMBER. — As the weather had been quite mild, I decided to put the light trap out in the garden on 25th December 1979, just to see what was around. By the following morning five *Erannis defoliaria* Clerck and, much to my surprise, a single male *Orthosia stabilis* had turned up. This, I believe, is not the first time an *Orthosia* species has occurred at this time of year though I have never seen a documented case of this before. — M. PARSONS, The Forge, Russells Green, Ninfield, Battle, East Sussex.